Introduction

What is a robot?

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Weasel words

The editors of Wikipedia had extreme difficulty coming to a consensus on the definition.

- A clockwork car is never considered a robot.[*citation needed*]
- A mechanical device able to perform some preset motions but with no ability to adapt (an automaton) is rarely considered a robot.[*citation needed*]
- A remotely operated vehicle is sometimes considered a robot (or telerobot).[7]
- A car with an onboard computer, like Bigtrak, which could drive in a programmable sequence, might be called a robot.[*citation needed*]
- A self-controlled car which could sense its environment and make driving decisions based on this information, such as the 1990s driverless cars of Ernst Dickmanns or the entries in the DARPA Grand Challenge, would quite likely be called a robot.[*citation needed*]
- A sentient car, like the fictional KITT, which can make decisions, navigate freely and converse fluently with a human, is usually considered a robot.[*citation needed*]

http://en.wikipedia.org/wiki/Robot

Weasel words

The editors of Wikipedia had extreme difficulty coming to a consensus on the definition.

- A player piano is rarely characterized as a robot.[8]
- A CNC milling machine is very occasionally characterized as a robot.[*citation needed*]
- A factory automation arm is almost always characterized as an industrial robot.[*citation needed*]
- An autonomous wheeled or tracked device, such as a self-guided rover or self-guided vehicle, is almost always characterized as a mobile robot or service robot.[*citation needed*]
- A zoomorphic mechanical toy, like Roboraptor, is usually characterized as a robot.[9]
- A mechanical humanoid, like ASIMO, is almost always characterized as a robot, usually as a service robot.[*citation needed*]

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From one of the pioneers of robotics

You can't define a robot. It's the same as trying to define Mt. Fuji. If a steep hill suddenly protrudes from the flatland, you can draw a line to show where the mountain starts, but Mt Fuji becomes higher so gradually that you can't draw a line. Robots are like Mt. Fuji. It's hard to separate what is a robot from what is not.

– Masahiro Mori

[Robotics and Automation Magazine, June 2012]

Some defining characteristics

The word “robot” can be surprisingly difficult to define.

However, there are some important **defining characteristics** to look for:

- **Autonomous**: A robot must make its own decisions.
- **Sensor-driven**: A robot needs to collect information about its environment.
- **Physical**: The real world is complicated and unpredictable.
- **Goal-achieving**: A robot should do something useful.

[Mataric, *The Robotics Primer*]